

What is claimed is:

1. A digital multimeter adapter for a portable electronic device, comprising:

a module adapted to interface with a hardware interface port of a portable electronic device having a processor and a display, the module including a computer program memory, the memory storing computer program instructions thereon to direct the processor to perform the steps of:

collecting data representative of an electrical signal from an external source; and

displaying the data on the display in a digital format representing a characteristic of the signal.

2. The adapter of claim 1 wherein the characteristic comprises voltage, current, or resistance.

3. The adapter of claim 1 wherein the adapter further includes a database of model signal values, and the instructions further direct the processor to display a model signal value from the database on the display.

4. The adapter of claim 1 wherein the adapter further includes a database of collected signal value data, and the instructions further direct the processor to store the data representative of the signal in the database of collected signal value data.

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5. The adapter of claim 1 wherein the adapter or the electronic device contains a buffer, and the instructions further direct the processor to store the data representative of the signal in the buffer.

6. The adapter of claim 1 wherein the instructions further direct the processor to provide an electronic device input that, when activated by a user, allows the user to adjust the characteristic to be displayed on the display.

6. The adapter of claim 5 wherein the electronic device input that allows the user to adjust the characteristic is displayed on a setup screen.

7. The adapter of claim 1 wherein the adapter further includes a language database containing data representative of words in a plurality of languages.

8. A method of causing an electronic device to function as a digital multimeter, comprising:

connecting an adapter module to a hardware interface port of a portable electronic device having a processor, a display, and a memory;

delivering computer program instructions from the module to a processor for the electronic device;

collecting, using a plurality of leads connected to the electronic device, data representative of a signal from an external source;

analyzing, using a processor of the electric device, the data to identify a characteristic of the signal; and

displaying, in response to the computer program instructions, the characteristic in digital format.

9. The method of claim 8 wherein the adapter further includes a database of model values, and the method further includes selecting a model value from the database and displaying the selected model value on the display.

10. The method of claim 8 wherein the adapter further includes a database of collected characteristic values, and the method further includes storing the characteristic identified in the analyzing step in the database of collected characteristic values.

11. The method of claim 8 wherein the adapter or the electronic device contains a buffer, and the method further includes storing the characteristic identified in the analyzing step in the buffer.

12. The method of claim 8 comprising the additional step of selecting the characteristic from a set of characteristics including voltage, current, and resistance.

13. The method of claim 12 wherein the selecting step is performed while a setup screen is displayed on the display.

14. The method of claim 8 wherein the adapter further includes a language database containing data representative of words in a plurality of languages, and the method comprises the additional steps of translating text and displaying the translated text on the display.

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15. A plug-in module for a portable electronic device, comprising:  
a means for interfacing with an electronic device; and  
a computer program memory, the memory storing computer  
program instructions thereon to direct a processor to perform the steps of:  
collecting data representative of an signal from an external source;  
analyzing the data to identify a characteristic of the signal; and  
displaying the characteristic on a display of the electronic device  
in digital format.

16. The module of claim 15 wherein the module further includes a  
database of model values.

17. The module of claim 16 wherein the instructions further direct the  
processor to display a model value from the database on the display.

18. The module of claim 15 wherein the module further includes a  
database of collected characteristic values.

19. The module of claim 18 wherein the instructions further direct the  
processor to store the characteristic identified in the analyzing step in the database  
of collected waveform data.

20. The module of claim 15 wherein the module further includes a  
language database containing data representative of words in a plurality of  
languages.